

Appl. No. 10/696,215  
Amdt. Dated September 8, 2006  
Reply to Office Action of July 17, 2006

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REMARKS

This is a full and timely response to the final Office action mailed July 17, 2006. Reexamination and reconsideration in view of the foregoing amendments and following remarks is respectfully solicited.

Claims 1-25 are pending in this application, with Claims 1, 11, 20, and 25 being the independent claims. Claims 1, 7, 11, 16, 20, and 25 have been amended herein, and Claims 6, 8, 15, 17, and 21-24 are canceled. No new matter has been added.

Rejections Under 35 U.S.C. § 112, First Paragraph

Claims 1-25 were rejected under 35 U.S.C. § 112, first paragraph as allegedly failing to comply with the written description requirement. In response, and while not conceding the propriety of this rejection, Applicant has cosmetically amended independent Claims 1, 11, 20, and 25 to even more clearly recite the subject matter of the invention. In particular, the independent claims now recite, *inter alia*, an oscillator circuit including one or more capacitance circuit elements electrically coupled in parallel with the sensor coil to thereby form a parallel-resonant LC tank circuit having a resonant frequency that varies with the proximity of the sensor coil to each of the turbine blades (or rotating element in the case of Claim 25), the oscillator circuit operable to generate and supply a sensor signal having a frequency that varies based on the resonant frequency of the parallel-resonant LC tank circuit. Applicant submits that this recitation fully complies with the written description requirement, based at least on the description provided in paragraphs [0033] and [0034].

In view of the foregoing, Applicant requests reconsideration and withdrawal of the § 112, first paragraph rejection.

Rejections Under 35 U.S.C. § 112, Second Paragraph

Claims 1-25 were rejected under 35 U.S.C. § 112, first paragraph as allegedly being indefinite. While also not conceding the propriety of this rejection, the amendments to independent Claims 1, 11, 20, and 25 are believed to wholly moot this rejection. Therefore, reconsideration and withdrawal of the same is respectfully solicited.

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Rejections Under 35 U.S.C. § 102

Claim 25 was rejected under 35 U.S.C. § 102 as allegedly being anticipated by U.S. Patent No. 5,854,553 (Barclay et al.). This rejection is respectfully traversed.

Independent Claim 25 relates to a proximity sensor that includes a sensor coil and a frequency modulation (FM) detector circuit and, as noted above, now recites, *inter alia*, an oscillator circuit including one or more capacitance circuit elements electrically coupled in parallel with the sensor coil to thereby form a parallel-resonant LC tank circuit having a resonant frequency that varies with the proximity of the sensor coil to the rotating element, the oscillator circuit operable to generate and supply a sensor signal having a frequency that varies based on the resonant frequency of the parallel-resonant LC tank circuit.

Barclay et al. relates to an eddy current probe configured to measure the position of a conductive target relative to the probe. In one embodiment, a VCO (voltage controlled oscillator) generates and supplies a variable frequency signal. Nonetheless, the variable frequency signal is not the resonant frequency of a parallel-resonant LC tank circuit that is formed by the sensor coil and one or more capacitance elements.

In view of the forgoing, Applicant requests reconsideration and withdrawal of the § 102 rejection.

Rejections Under 35 U.S.C. § 103

Claims 1-3, 6-8, and 10 were rejected under 35 U.S.C. § 102 as allegedly being unpatentable over Barclay et al. and U.S. Patent No. 4,644,270 (Oates et al.), and Claims 4, 5, 9, and 11-24 were variously rejected under 35 U.S.C. § 103 as allegedly being unpatentable over Barclay et al., Oates et al., and U.S. Patent Nos. 6,658, 216 (Iida et al.), 5,497,147 (Arms et al.), 3,177,711 (Ham et al.), 6,069,475 (Isomura et al.), 4,842,477 (Stowell), and 4,230,436 (Davison), and British Patent No. 2,167,603 (Wilkinson). These rejections are respectfully traversed.

As was noted above, Barclay et al. fails to disclose, or even remotely suggest, an oscillator that generates a variable frequency signal that is the resonant frequency of a

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parallel-resonant LC tank circuit formed by the sensor coil and one or more capacitance elements. This feature is one that is now recited in each of independent Claims 1, 11, and 20.

Oates et al. relates to a proximity sensor system and method for turbine blades and, as is pointed out in the Office action, discloses an oscillator circuit (80) for supplying a signal to a proximity sensor (S1). More specifically, Oates et al. discloses that the oscillator (80) supplies a fixed-frequency (e.g., 1 MHz) signal to the sensor (S1) via a buffer amplifier (82), a trifilar wound transformer (T1), and a three-conductor shielded cable (88) (col. 4, ll. 49-58; FIG. 5). As is clear from the description and corresponding illustrations, the oscillator (80) generates and supplies a **fixed-frequency** signal, and does not generate and supply a variable frequency signal having a frequency that varies based on the proximity of the sensor coil to the turbine blades, let alone an oscillator that generates a variable frequency signal that is the resonant frequency of a parallel-resonant LC tank circuit formed by the sensor coil and one or more capacitance elements, as is now recited in each of independent Claims 1, 11, and 20.

Moreover, none of the other cited references, namely Iida et al., Arms et al., Ham et al., Isomura et al., Stowell, Davison, and Wilkinson, disclose or suggest at least the above-noted feature of independent Claims 1, 11, and 20. As such, none of the claims that depend therefrom (i.e., Claims 2-10 and 22-24) are either anticipated or rendered obvious. Moreover, independent Claim 11 recites at least this same non-disclosed and non-suggested feature. Thus, this independent claim and the claims that depend therefrom (i.e., Claims 11-19) are also not anticipated or rendered obvious by any of the citations of record.

In view of the foregoing, Applicant requests reconsideration and withdrawal of the § 103 rejections.

### Conclusion

Based on the above, independent Claims 1, 11, 20, and 25 are patentable over the citations of record. The dependent claims are also submitted to be patentable for the reasons given above with respect to the independent claims and because each recite

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features which are patentable in its own right. Individual consideration of the dependent claims is respectfully solicited.

The other art of record is also not understood to disclose or suggest the inventive concept of the present invention as defined by the claims.

Hence, Applicant submits that the present application is in condition for allowance. Favorable reconsideration and withdrawal of the objections and rejections set forth in the above-noted Office action, and an early Notice of Allowance are requested.

If the Examiner has any comments or suggestions that could place this application in even better form, the Examiner is requested to telephone the undersigned attorney at the below-listed number.

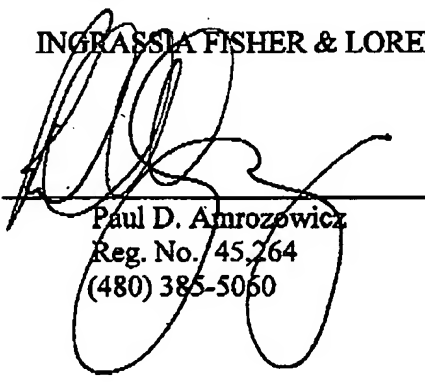
If for some reason Applicant has not paid a sufficient fee for this response, please consider this as authorization to charge Ingrassia, Fisher & Lorenz, Deposit Account No. 50-2091 for any fee which may be due.

Respectfully submitted,

INGRASSIA FISHER & LORENZ

Dated: September 8, 2006

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